



ATTACHMENT D

Amendments to the Drawings

The attached Replacement sheet of the drawings provides a schematic representation of the objected to photograph originally provided figure 10.

The Replacement sheet replaces the original or previously filed corresponding sheet having the same figure(s).

ATTACHMENT A

Remarks

By this Amendment, various clarifying corrections have been made in the specification. In the claims, independent claim 1 has been amended for clarity and to better define the invention. Other dependent claims have also been amended consistent with the changes to independent claim 1 and/or for clarity; and new dependent claim 20 and independent claim 21 have been added to further claim the present invention. Further, a replacement drawing has been provided; and a substitute IDS listing is provided to correct a typographical error in the previously supplied IDS listing. It is submitted that the present application is in condition for allowance for the following reasons.

In the *Information Disclosure Statement* section of the outstanding Detailed Action, the examiner noted that USP 6,337,842 (Wolfer) had been listed in the IDS filed on 1/11/2005 even though this reference seemingly had nothing to do with the claimed invention. As noted in the IDS Letter accompanying the previously filed IDS Listing, the purpose of the IDS was to make the references cited in the PCT/ISR part of the record; and for that purpose a copy of the PCT/ISR was also provided. Besides the four other references cited in the PCT/ISR listing was USP 6,377,842 (Pogue). It will thus be appreciated that the listing of USP 6,337,842 (Wolfer) was an obvious typographical error where USP 6,377,842 (Pogue) should have been listed. Therefore, to correct this obvious error, a new IDS Listing is together with the required fee is provided herewith.

In the *Drawings* section of the Action, the drawings were initially objected to: (a) for not having element number 334 in the drawings, even though element number 334 was mentioned in the specification; and (b) for having element number 344 in the drawings, even though element

number 344 was not mentioned in the specification. These two problems have the same genesis, the typographical error of using element number 344 instead of 334 in the specification. This typographical error has thus now been corrected by this Amendment.

Also in the *Drawings* section, figure 10 was objected to for having solid black shading. Of course, figure 10 did not have such shading, but was merely a reproduced photograph where portions of the image were black. However, in order to overcome this objection and to better show the image, a replacement sheet of figure 10 is provided. New figure 10 is a schematic representation of the image previously provided; and consistent therewith, the specification has been amended to refer to this schematic representation, the dimensions identified in original figure 10, and the reference numerals now provided in substitute figure 10.

In the *Specification* section, the disclosure was objected to for various informalities. These, and other similar corrections, have now been made by this Amendment. However, it will be noted that informalities “c.” and “d.” noted by the examiner were for the same recitation. This confusing situation has evidently resulted from:

- 1) the fact that page 1 of the specification (together with pages 2 and 3) was amended in the international stage, but amended page 1 was not forwarded by WIPO (And it will be noted, amended page 1 is not made of record in the published IPER provided by WIPO, evidently because of an oversight by WIPO); and
- 2) the examiner using both original page 2 as basis for the “c.” objection, and amended page 2 as a basis for the “d.” objection.

Thus, in order to correct this situation, it is initially requested that the examiner make sure that the amended pages 2 and 3, which were received from WIPO, be used for this application in place of original pages 2 and 3. Then, in order to have amended page 2 follow from the end of

original page 1 in the simplest manner, the effected paragraphs of original page 1 and amended page 2 have been corrected by this Amendment to match the missing amended page 1 (which corrections are merely consistency with the amended claim 1 also presented in the international stage, and thus do not constitute new matter).

In the *Claim Rejections - 35 USC § 103* section, independent claim 1 and dependent claim 5 were rejected under 35 USC § 103 as being obvious over the principal Sandison in view of Furusawa. However, for the following reasons, it is submitted that claims 1 and 5 are allowable over these references.

Sandison discloses a multispectral imaging probe that delivers a range of wavelengths of excitation light to a target and collects a range of expressed light wavelengths. In one embodiment (see Figure 5), the probe includes a transmission conduit 105 (and G25) for delivering light to the detector, and the specification explains that this transmission conduit is suitably in the form of a coherent optical fiber bundle. However, in this embodiment, light is conducted from an excitation source X5 to probe P5 by first transmissive conduit G15, of which it is said:

A liquid light guide is an example of a suitable first transmissive conduit G15. The liquid light guide can have an input aperture of approximately 3 mm in diameter to avoid alignment problems common to small diameter optical fibers.” [Column 7 lines 23 to 28].

Thus, Sandison does not disclose, and indeed teaches away from, embodiments of the type shown in Figures 2, 4A, etc. of the present application, in which the delivery light guide comprises a single optical fiber (50, 118, etc.) and the return light guide comprises an optical fiber bundle (82, 150, etc.).

Furusawa teaches exclusively the use of fiber bundles for both incident and return light, so similarly includes no suggestion of these claimed embodiments of the present invention.

Thus, independent claim 1 has been amended to more clearly define the above referenced embodiments of the present invention. The absence of any suggestion in either cited document of this configuration, and the teaching in Sandison against the use of optical fibers owing to associated alignment problems, renders claim 1 as amended, and the claims dependent therefrom, inventive over those documents taken singly or in combination.

Indeed, the configuration of these embodiments of the present invention is counter-intuitive. The delivery optical fiber constrains the incident light to a small beam size, which can then be focussed by confocally arranged optical elements to a desired illumination volume in a sample. Confocal systems are valued for their ability to constrain the observed volume, to provide a small depth of field, and to preserve a small beam size, all while employing simple optics. Yet, according to the present invention, an optical element - in the preferred embodiments in the form of a beam-splitter (e.g. prism 60, 128, etc.) - is used to form an extended spectral line on the entry end (80, 148, etc) of the fiber bundle. As a consequence, additional optical elements (e.g. lens 88, a slit formed by jaws 94, 96, etc.) are employed to obtain the ultimate image, adding a substantial complexity. This complexity teaches against the use of such an arrangement.

The applicants, however, have appreciated that, by virtue of such a configuration, a return channel can be provided that is optically independent and isolated from the laser delivery fiber fluorescence and, therefore, has reduced optical noise compared with systems in which the same fiber is used for both excitation and return light. For this reason also, therefore, it is submitted that the amended independent claim 1, and all of the claims dependent therefrom, are inventive over the cited combination of prior art.

In the Action, dependent claims 9 and 10 were rejected under 35 USC § 103 as being obvious over the principal Sandison in view of Furusawa, and further in view of George. However, it is submitted that these dependent claims are allowable at least for the same reasons as noted above for independent claim 1 from which they depend.

As noted above, new dependent claim 20 has been added which is dependent from independent claim 1. This dependent claim is directed to those illustrated (and elected) embodiments in which the optical element for spectrally disbursing the fluorescent component comprises the beam-splitter. This claim is allowable at least for the same reasons as for independent claim 1 as noted above.

In addition, a new independent claim 21 has been added. It is in the form of a method claim to further claim the present invention, but it is otherwise equivalent to claim 1 as amended and is thus allowable for the same reasons.